Installation Manual

Installation & Appliance Set-Up

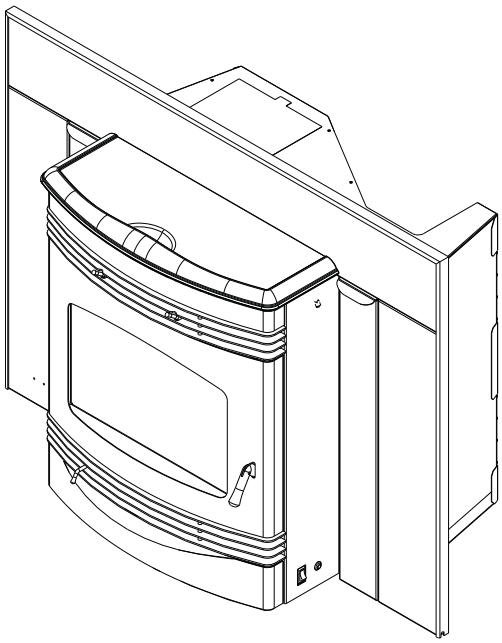
INSTALLER: Leave this manual with party responsible for use and operation.
OWNER: Retain this manual for future reference.

NOTICE: DO NOT DISCARD THIS MANUAL

QUADRA-FIRE®

SANTA FE PELLET INSERT STOVE

Model(s):
SANTAFEI-MBK



Pellet Fuels Institute

Tested and Listed by OTL Portland Oregon USA C US OMNI-Test Laboratories, Inc.

CAUTION

Tested and approved for wood pellets and corn pellets. Burning of any other type of fuel voids your warranty.

CAUTION

Check building codes prior to installation.

- Installation MUST comply with local, regional, state and national codes and regulations.
- Consult local building, fire officials or authorities having jurisdiction about restrictions, installation inspection, and permits.

WARNING

If the information in these instructions is not followed exactly, a fire could result causing property damage, personal injury, or death.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Do not overfire - If heater or chimney connector glows, you are overfiring. Overfiring will void your warranty.
- Comply with all minimum clearances to combustibles as specified. Failure to comply may cause house fire.

WARNING

HOT SURFACES!
Glass and other surfaces are hot during operation AND cool down.

Hot glass will cause burns.

- Do not touch glass until it is cooled
- NEVER allow children to touch glass
- Keep children away
- CAREFULLY SUPERVISE children in same room as fireplace.
- Alert children and adults to hazards of high temperatures
- **High temperatures may ignite clothing or other flammable materials.**
- Keep clothing, furniture, draperies and other flammable materials away.

NOTE

To obtain a French translation of this manual, please contact your dealer or visit www.quadrafire.com

Pour obtenir une traduction française de ce manuel, s'il vous plaît contacter votre revendeur ou visitez www.quadrafire.com

Safety Alert Key:

- ***DANGER!*** Indicates a hazardous situation which, if not avoided will result in death or serious injury.
- ***WARNING!*** Indicates a hazardous situation which, if not avoided could result in death or serious injury.
- ***CAUTION!*** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- ***NOTICE:*** Indicates practices which may cause damage to the appliance or to property.

TABLE OF CONTENTS

1 Important Safety Information.....3
- A. Appliance Certification 3
- B. BTU & Efficiency Specifications.....3
- C. Glass Specifications 3
- D. Electrical Rating.....3
- E. Mobile Home Approved 3

2 Getting Started.....4
- A. Design, Installation & Location Considerations 4
- B. Thermostat Wall Control Location.....5
- C. Tools And Supplies Needed.....5
- D. Inspect Appliance and Components 5
- E. Install Checklist.....6

3 Dimensions and Clearances.....7
- A. Appliance Dimensions 7
- B. Clearance To Combustibles, UL and ULC 8
- C. Masonry and Zero Clearance Fireplaces 9
- D. Minimum Opening for Masonry and Zero Clearance Fireplaces.....9
- E. Hearth Extension 9
- F. Floor Protection 9
- G. Prefabricated Metal Chimney 9
- H. Removing Metal Floor of Factory-Built Firebox.....10
- I. Altering the Factory-Built Fireplace 10

4 Vent Information.....11
- A. Venting Termination Minimum Requirements 11
- B. Avoiding Smoke and Odors 12
- C. Negative Pressure 13
- D. Draft.....13
- E. Chimney and Exhaust Connection 13
- F. Equivalent Feet of Pipe 14
- G. Pipe Selection Chart 14

5 Venting Systems 15
- A. Full Reline With Outside Air - Horizontal.....15
- B. Full Reline With Outside Air - Vertical 16

6 Appliance Set-Up 17
- A. Leveling System 17
- B. Outside Air Kit Instructions 17
- C. Optional Grille Removal and Installation 18
- D. Door Handle Removal 18
- E. Door Removal.....18
- F. Adjustable Hearth Support 19
- G. Panel and Trim Set.....20
- H. Thermostat Installation 20
- I. Optional Log Set Placement Instructions.....21

7 Mobile Home Installation.....22

8 Accessory List 23

1 Important Safety Information

A. Appliance Certification

Model	Santa Fe Pellet Insert
Laboratory	OMNI Test Laboratories, Inc.
Report No.	061-S-77d-6.2
Type	Solid Fuel Room Heater/Pellet Fuel Burning Type Insert
Standard	ASTM E1509-2004, ULC S628-93 and ULC/ORD-C1482-M1990 Room Heater Pellet Fuel Burning Type and (UM) 84-HUD, Mobile Home Approved
FCC	Complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This installation must conform with local codes. In the absence of local codes you must comply with the **ASTM E1509-2004, ULC S628-93, ULC/ORD-C-1482-M1990, (UM) 84-HUD**

B. BTU & Efficiency Specifications

EPA Certified:	1.8 grams per hour
Efficiency:	78%
EPA BTU Output:	8,500 - 28,200 / hr
Heating Capacity:	up to 1,500 sq. ft. depending on climate zone
Vent Size:	3” or 4” L or PL
Hopper Capacity:	45 lbs
Fuels:	Wood pellets or Shelled Corn
Shipping Weight:	214 lbs

*BTU will vary, depending on the type of fuel you use in your appliance. Consult your Quadra-Fire dealer for best results.

These heaters meet the US Environmental Protection Agency’s Emission limits for pellet heaters. Under specific conditions the Santa Fe stove has shown to deliver heat at rates ranging from 8,500 to 28,200 BTU/hr.

Meets EPA particulate matter (smoke) control requirements for non catalytic wood heaters built on or after July 1,1990.

C. Glass Specifications

This stove is equipped with 5mm ceramic glass. Replace glass only with 5mm ceramic glass. Please contact your dealer for replacement glass.

D. Electrical Rating

115 VAC, 60 Hz, Start 4.1 Amps, Run 1.1 Amps

E. Mobile Home Approved

- This appliance is approved for mobile home installations when not installed in a sleeping room and when an outside combustion air inlet is provided.
- The structural integrity of the mobile home floor, ceiling, and walls must be maintained.
- The appliance must be properly grounded to the frame of the mobile home and use only Listed pellet vent Class “L” or “PL” connector pipe.
- Outside Air Kit, part OAK-ACC must be installed in a mobile home installation.

⚠ WARNING

Fire Risk.

Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged appliance.
- Modification of the appliance.
- Installation other than as instructed by Hearth & Home Technologies.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.
- Operating appliance without fully assembling all components.
- Operating appliance without legs attached (if supplied with unit).
- Do NOT Overfire - If appliance or chimney connector glows, you are overfiring.

Any such action that may cause a fire hazard.

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.
For assistance or additional information, consult a qualified installer, service agency or your dealer.

NOTE: Hearth & Home Technologies, manufacturer of this appliance, reserves the right to alter its products, their specifications and/or price without notice.

Quadra-Fire is a registered trademark of Hearth & Home Technologies.

Install Guide

2 Getting Started

A. Design, Installation & Location Considerations

1. Appliance Location

NOTICE: *Check building codes prior to installation.*

- Installation MUST comply with local, regional, state and national codes and regulations.
- Consult insurance carrier, local building inspector, fire officials or authorities having jurisdiction over restrictions, installation inspection and permits.

It is a good idea to plan your installation on paper, using exact measurements for clearances and floor protection, before actually beginning the installation. Location of the appliance and chimney will affect performance.

Consideration must be given to:

- Safety, convenience, traffic flow
- Placement of the chimney and chimney connector and to minimize the use of chimney offsets.
- Place the appliance where there will be a clear passage for a Listed chimney through the ceiling and roof (vertical) or through exterior wall (horizontal).
- Installing the required outside air kit will affect the location of the vent termination.

When locating vent and venting termination, the ideal location is to vent above roof line when possible. This minimizes the affects of wind loading.

Since pellet exhaust can contain ash, soot or sparks, you must consider the location of:

- Windows
- Air Intakes
- Air Conditioner
- Overhang, soffits, porch roofs, adjacent walls
- Landscaping, vegetation
- Horizontal or vertical vent termination

2. Floor Support

The supporting floor under the appliance must be able to handle the weight of the appliance, fuel load and the weight of the chimney.

Ensure that your floor will support these weights prior to installation. Add sufficient additional support to meet this weight requirement prior to installation. The weight of the appliance is 214 lbs.

CAUTION

If burning shelled field corn, you must use approved venting specifically designed for corn to prevent corrosion or degradation. Follow the instructions from the venting manufacturer.

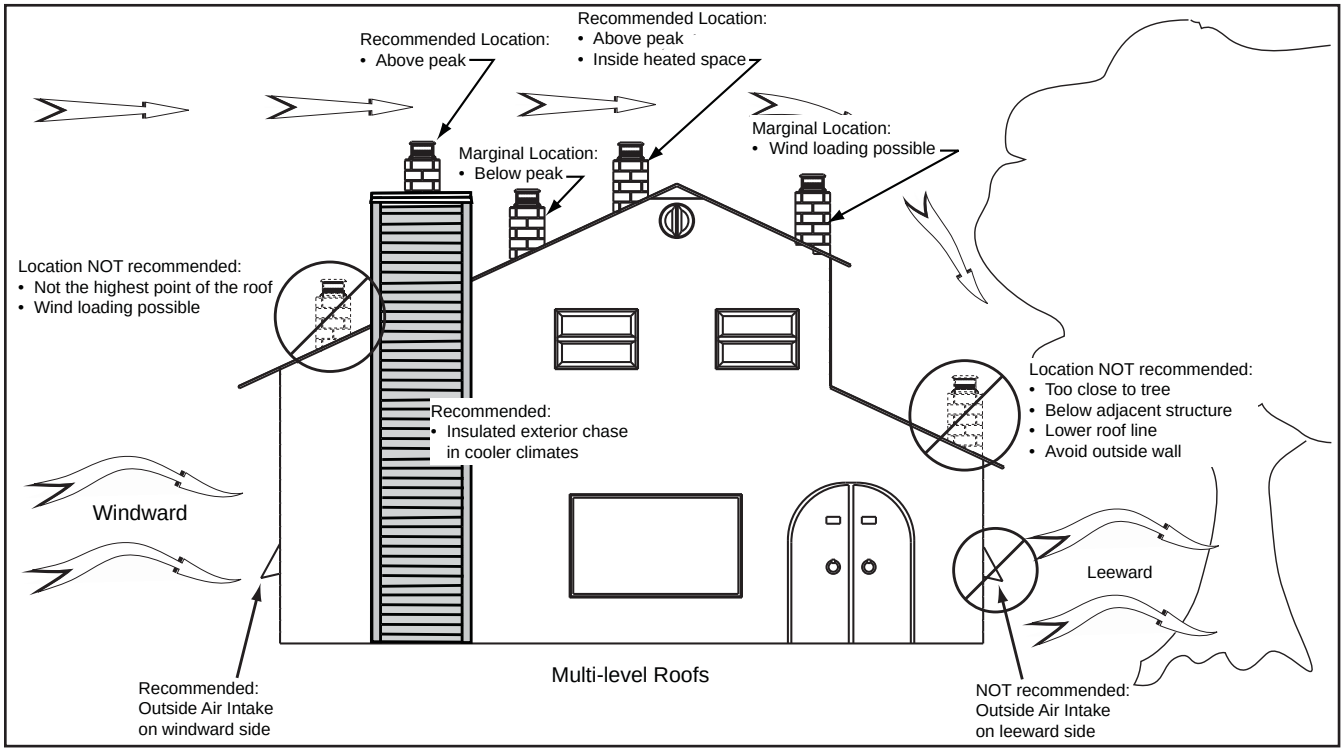


Figure 4.1

B. Thermostat Wall Control Location

The thermostat wall control's location will have some affect on the appliance's operation.

- Maximum wire length from appliance is 100 feet (30.48m) continuous unspliced wire. Recommended 20 gauge wire, solid copper .
- When located close to the appliance, it may require a slightly higher temperature setting to keep the rest of the house comfortable.
- When located in an adjacent room or on a different floor level, you will notice higher temperatures near the appliance.

C. Tools And Supplies Needed

Tools and building supplies normally required for installation, unless installing into an existing masonry fireplace:

Reciprocating Saw	Channel Locks
Hammer	Phillips Screwdriver
Tape Measure	Plumb Line
1/4" Self-Tapping Screws	Framing Material
Hi-temp Caulking Material	Gloves
Safety Glasses	Framing Square
Electric Drill & Bits (1/4")	Level
May also need:	
Vent Support Straps	Venting Paint

D. Inspect Appliance and Components

- Open the appliance and remove all the parts and articles packed inside the Component Pack. Inspect all the parts and glass for shipping damage.
- Report to your dealer any parts damaged in shipment.
- All labels have been removed from the glass door.
- Plated surfaces have been wiped clean with a soft cloth, if applicable.
- **Read all the instructions before starting the installation. Follow these instructions carefully during the installation to ensure maximum safety and benefit.**
- **Follow pipe manufacturer instructions for installation and air clearance requirements.**

⚠ WARNING

Fire Risk.

Damaged parts could impair safe operation. Do NOT install damaged, incomplete or substitute components.

⚠ WARNING

Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged appliance.
- Modification of the appliance.
- Installation other than as instructed by Hearth & Home Technologies.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.
- Operating appliance without fully assembling all components.
- Operating appliance without legs attached (if supplied with unit).
- Do NOT Overfire

Or any such action that may cause a fire hazard.

E. Install Checklist

ATTENTION INSTALLER:

Follow this Standard Work Checklist

This standard work checklist is to be used by the installer in conjunction with, not instead of, the instructions contained in this installation manual.

Customer: _____

Date Installed: _____

Lot/Address: _____

Location of Fireplace: _____

Installer: _____

Dealer/ Distributor Phone #: _____

Serial #: _____

Model (circle one): SANTAFEI-MBK

WARNING! Risk of Fire or Explosion! *Failure to install fireplace according to these instructions can lead to a fire or explosion.*

Appliance Install	**YES**	**IF NO, WHY?**
Verified clearances to combustibles. (Pg. 8)	☐	_____
Fireplace is leveled and liner is secured to appliance. (Pg. 18)	☐	_____
Hearth extension size/height decided. (Pg. 22)	☐	_____
Outside air kit installed. (Pg. 15)	☐	_____
Floor protection requirements have been met.	☐	_____
The masonry chimney is inspected by a professional and is clean or the factory built metal chimney is installed according to the manufacturer's instructions and clearances.	☐	_____

Chimney Section 4 (Pg. 10)		
Chimney configuration complies with diagrams.	☐	_____
Chimney installed, locked and secured in place with proper clearance.	☐	_____
Chimney meets the minimum height requirements.	☐	_____
Roof flashing installed and sealed.	☐	_____
Terminations installed and sealed.	☐	_____

Clearances Section 3 (Pg. 7)		
Combustible materials not installed in non-combustible areas.	☐	_____
Verified all clearances meet installation manual requirements.	☐	_____
Mantels and wall projections comply with installation manual requirements.	☐	_____
Protective hearth strips and hearth extension installed per manual requirements.	☐	_____

Appliance Setup Section 5 (Pg. 15)		
All packaging and protective materials removed.	☐	_____
Firebrick, baffle and ceramic blanket installed correctly.	☐	_____
All labels have been removed from the door.	☐	_____
All packaging materials are removed from inside/under the fireplace.	☐	_____
Manual bag and all of its contents are removed from inside/under the fireplace and given to the party responsible for use and operation.	☐	_____

Hearth & Home Technologies recommends the following:

- Photographing the installation and copying this checklist for your file.
- That this checklist remain visible at all times on the fireplace until the installation is complete.

Comments: Further description of the issues, who is responsible (Installer/Builder/Other Trades, etc.) and corrective action needed:

Comments communicated to party responsible _____ by _____on _____

(Builder/Gen. Contractor) (Installer) (Date)

Part # 4017-254 • Rev B • 01/29/13

3 Dimensions and Clearances

A. Appliance Dimensions

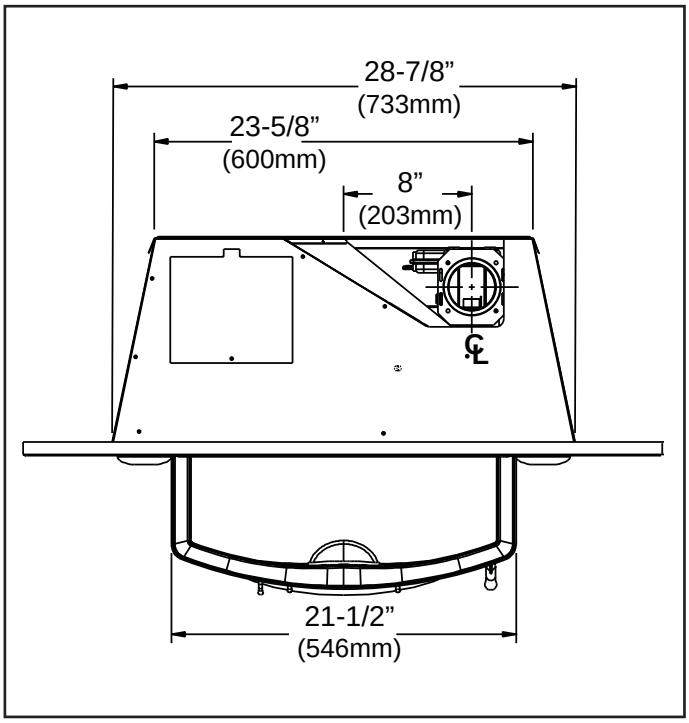


Figure 7.1 - Top View

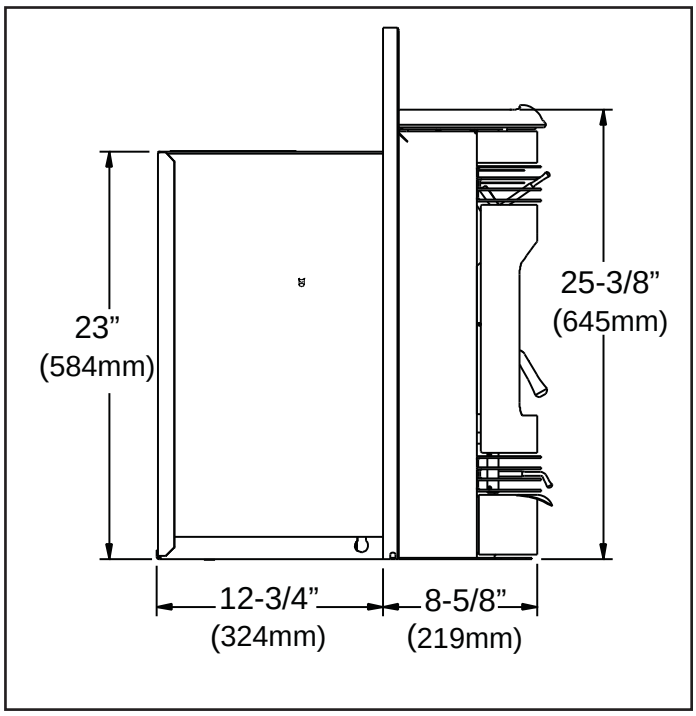


Figure 7.2 -Side View

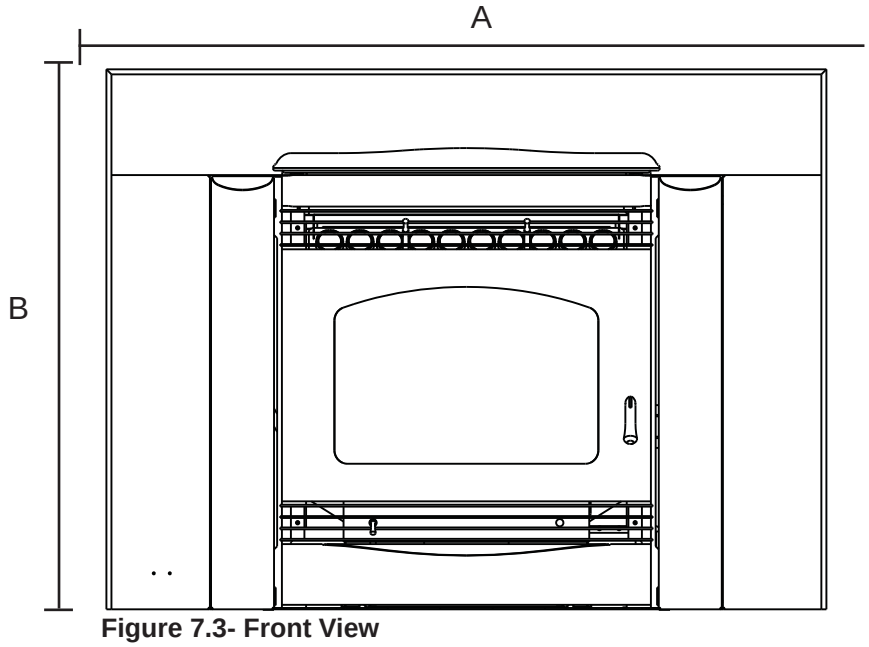


Figure 7.3- Front View

Panel	A	B
Standard	40 inches (1016mm)	30 inches (762mm)
Large	50 inches (1270mm)	33 inches (838mm)

B. Clearance To Combustibles, UL and ULC

AS A BUILT-IN

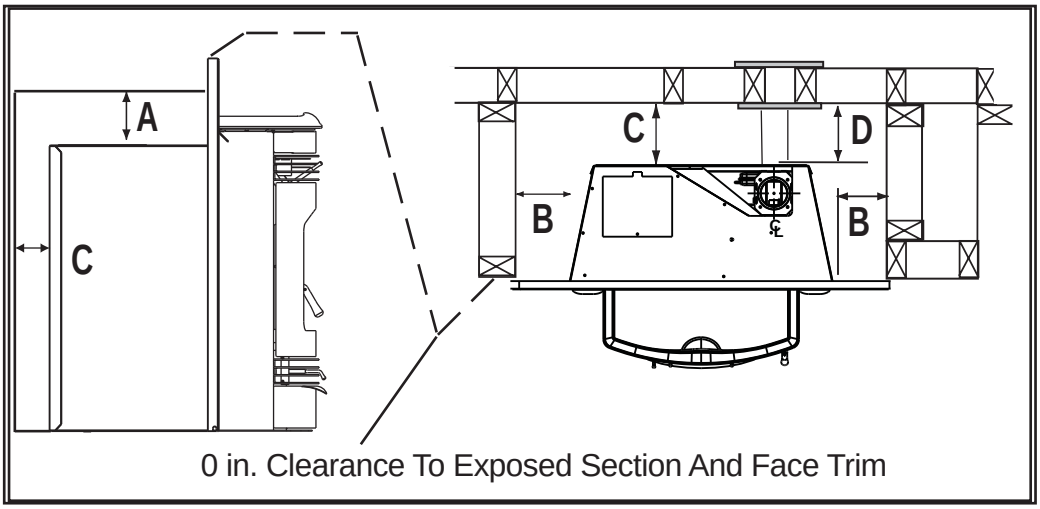


Figure 8.1

			Inches	Millimeters
A	Top of Hopper	Top Vent	2.0	51
		Rear Vent	2.5	64
B	Side of Hopper	Top or Rear Vent	2.0	51
C	Back of Hopper	Top or Rear Vent	2.5	64
D	Vent Pipe to Combustible	Top or Rear Vent	3.0	76

INSTALLED AS A BUILT-IN UNIT
Shown with Rear Vent and Optional Outside Air

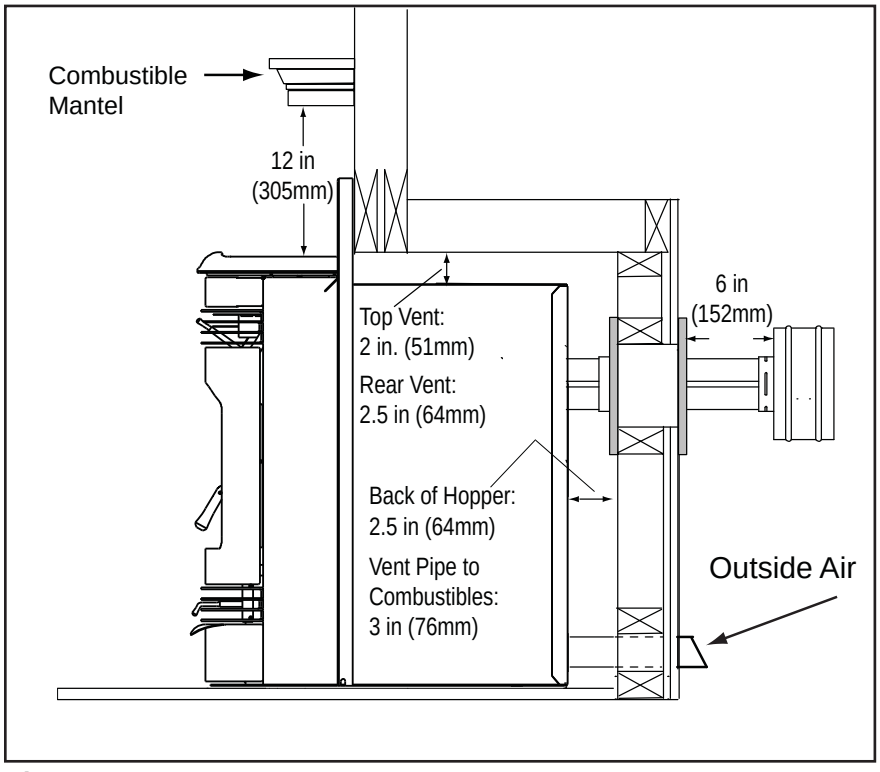

Combustible Mantel
12 in (305mm)
Top Vent: 2 in. (51mm)
Rear Vent: 2.5 in (64mm)
Back of Hopper: 2.5 in (64mm)
Vent Pipe to Combustibles: 3 in (76mm)
6 in (152mm)
Outside Air

Figure 8.2

WARNING

Fire Risk

Comply with all minimum clearances to combustibles as specified.

Failure to comply may cause house fire.

NOTE:

- Illustrations reflect typical installations and are FOR DESIGN PURPOSES ONLY.
- Illustrations/diagrams are not drawn to scale.
- Actual installation may vary due to individual design preference.

C. Masonry and Zero Clearance Fireplaces

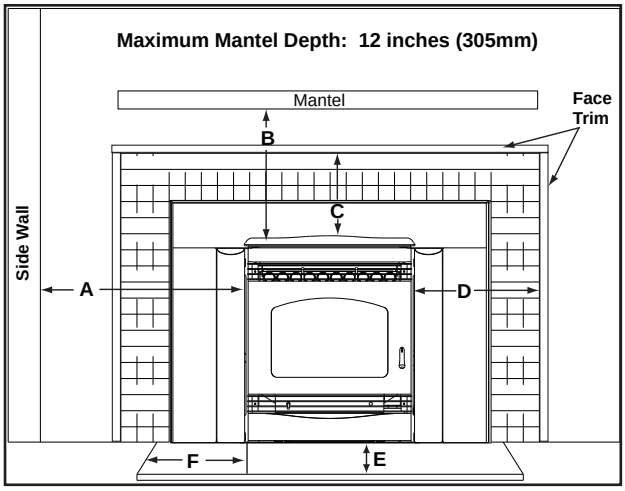


Figure 9.1

		Inches	Millimeters
A	Insert side to combustible side wall	16	406
B	Insert top to mantel	12	305
C	Insert top to maximum. 2-1/4 inch (57mm) face trim	4-3/4	121
D	Insert side to maximum. 2-1/4 inch (57mm) face trim	10	254

D. Minimum Opening for Masonry and Zero Clearance Fireplaces

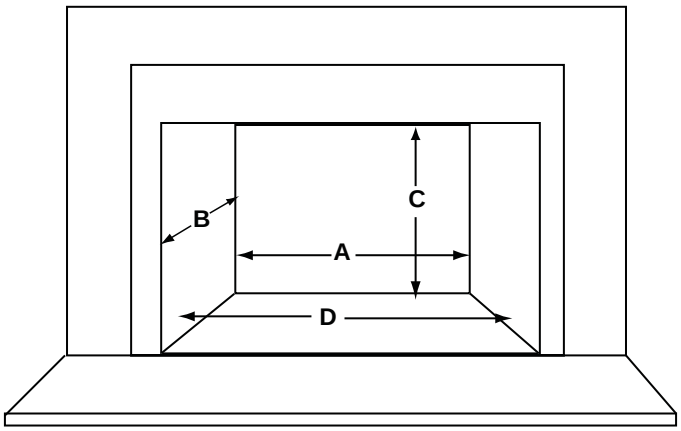


Figure 9.2

	Location	Inches	Millimeters
A	Rear Width	24	610
B	Depth	16	406
C	Height	23-1/4	591
D	Front Width	29-1/4	743

NOTE

It is necessary to permanently seal any opening between the masonry of the fireplace and the facing masonry.

E. Hearth Extension

If employing a hearth extension, any parts or materials used in construction must be non-combustible.

F. Floor Protection

		Inches	Millimeters
E	Floor protection hearth extension from door opening	6	152
F	Floor protection to the side of door opening	6	152

G. Prefabricated Metal Chimney

The chimney can be new or existing, masonry or prefabricated and must meet the following minimum requirements:

- Must be minimum 6 inch (152mm) inside diameter of high temperature chimney listed to UL 103 HT (2100^{o}F) or ULC-S629.
- Must use components required by the manufacturer for installation.
- Must maintain clearances required by the manufacturer for installation.
- Refer to manufacturers instructions for installation
- The original factory-built clearance fireplace chimney cap must be re-installed after installing the approved chimney liner meeting type UL 103 HT requirements (2100°F) per UL 1777.
- If the chimney is not listed as meeting HT requirements, or if the factory built fireplace was tested prior to 1998, a full height listed chimney liner must be installed from the appliance flue collar to the chimney top.
- The liner must be securely attached to the insert flue collar and the chimney top.
- The air flow of the factory-built zero-clearance fireplace system must not be altered. The flue liner top support attachment must not reduce the air flow for the existing air-cooled chimney system.
- No dilution air is allowed to enter the chimney.

1. Secure the fireplace damper in the open position. If this cannot be accomplished, it will be necessary to remove the damper
2. Seal damper area of chimney around chimney connector with a high temperature sealant or seal insert against the face of the fireplace.
3. Both methods must be removable and replaceable for cleaning and re-installation.

H. Removing Metal Floor of Factory-Built Firebox

- The firebrick (refractory), glass doors, screen rails, screen mesh and log grates can be removed from a factory-built firebox in order to gain minimum insert opening requirements.
- Any smoke shelves, shields and baffles may be removed from a factory-built firebox if attached with mechanical fasteners.
- The metal floor of the factory-built firebox may be removed to facilitate the installation of the insert only when a 1/4 (6mm) inch airspace is provided between the insert and the floor of outer wrap.

The following is only one example as there are many different models of factory-built fireplaces.

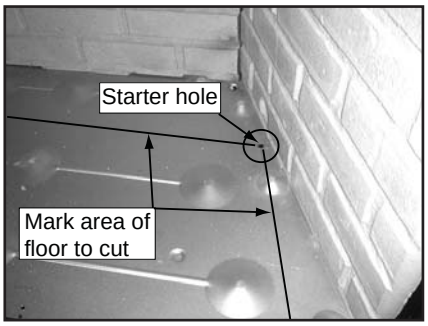


Figure 10.1. Measure and mark the metal floor for cutting. With a drill, make a starter hole in each corner.

Figure 10.2. Using a saws-all, cut out the floor.

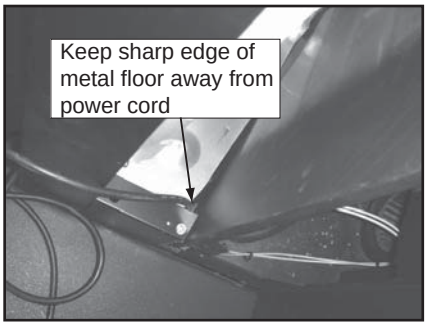


Figure 10.3. Ensure that the power cord can not be damaged by the sharp metal edge. You may need to cut out a notch to accommodate the cord.

NOTE: If the floor is made of thin metal, we recommend using the 2 x 4 from the insert packaging to support the insert. The 2 x 4 may need to be cut to the appropriate size. Ensure that the leveling leg is positioned over the 2 x 4 before leveling the insert.

I. Altering the Factory-Built Fireplace

- The fireplace must not be altered, except for the exceptions listed below. Do not removal the bricks and mortar from the existing fireplace.

The following modifications are permissible:

  - Removal of damper or locked in open position
  - Removal of smoke shelf or baffle
  - Removal of ember catches
  - Removal of fire grate
  - Removal of view screen/curtain
  - Removal of doors

- External trim pieces which do not affect the operation of the fireplace may be removed providing they can be stored on or within the fireplace for reassembly if the insert is removed.
- The permanent metal warning label provided must be attached to the back of the fireplace, with screws or nails, stating that the fireplace may have been altered to accommodate the insert, and must be returned to original condition for use as a conventional fireplace. **Figure 10.4.**
- If the hearth extension is lower than the fireplace opening, the portion of the insert extending onto the hearth must be supported.
- Manufacturer designed adjustable support kit can be ordered from your dealer.
- Final approval of this installation type is contingent upon the authority having jurisdiction.

NOTE: Refer to chimney liner manufacturer for recommendations on supporting the liner. Installation into fireplaces without a permit will void the listing

WARNING

THIS FIREPLACE MAY HAVE BEEN ALTERED TO ACCOMMODATE AN INSERT. IT MUST BE RETURNED TO ITS ORIGINAL CONDITION BEFORE USE AS A SOLID FUEL BURNING FIREPLACE.

250-2061

Figure 10.4

4 Vent Information

A. Venting Termination Minimum Requirements

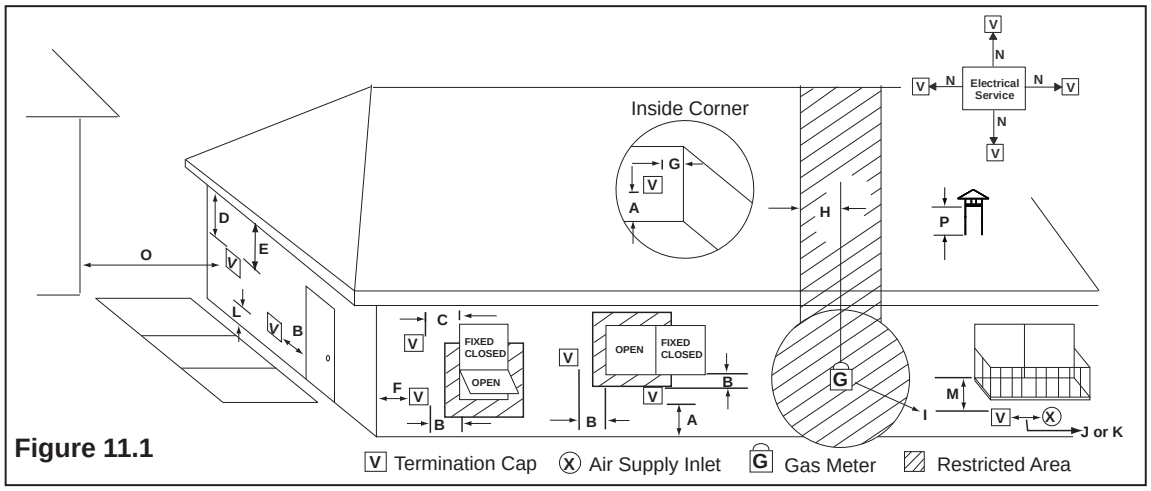


Figure 11.1

All minimum clearances are listed with an Outside Air Kit (OAK) installed, unless otherwise noted in table below.

A	12 in.	Above Finish Grade (the grade surface must be a non-combustible material
B	12 in. 48 in. no OAK	Open door or window: below or to the side
B	12 in.	Open door or window: above
C	6 in.	Permanently closed window: above, below or to the side
D	18 in. 36 in. no OAK	Vertical clearance to a ventilated soffit located above the terminal within a horizontal distance of 2 ft from the center-line of the terminal
E	12 in.	Clearance to unventilated soffit
F	12 in.	Clearance to outside corner
G	12 in.	Clearance to inside corner
H	36 in.	Above gas meter/regulator measured from horizontal center-line of regulator
I	36 in. USA 72 in. Canada	Clearance to service regulator vent outlet
J	12 in. 48 in. no OAK	Clearance to non-mechanical air supply inlet to the building or the combustions air inlet to any other appliance
K	10 ft horizontal 3 ft vertical	Clearance to mechanical air supply
L	7 ft.	Above paved sidewalk, paved driveway located on **public** property
M	12 in.	Under an open veranda, porch, deck or balcony
N	See Note below*	Electric service: above, below or to the side (location must not obstruct or interfere with access)
O	24 in.	Adjacent building, fences and protruding parts of the structure
P	12 in.	Clearance above roof line for vertical terminations

***NOTE:** Consult local building, fire officials or authorities having jurisdiction. Local codes or regulations may require different clearances.

24 in.	Above grass, top of plants, wood or any other combustible
12 in. 36 in. no OAK	Clearance from any forced air intake of other appliance
12 in.	Clearance horizontally from combustible wall
15 in.	Vented directly through a wall, minimum length of horizontal pipe
6 in. horizontal 12 in. vertical	Minimum horizontal or vertical terminations must protrude from wall

NOTICE:

Do NOT Terminate Vent:

- In any location that will allow flue gases or soot from entering or staining the building
- In any location which could create a nuisance or hazard
- In any enclosed or semi-enclosed area such as a carport, garage, attic, crawl space, under a sun deck or porch, narrow walkway
- Closely fenced area, or any location that can build up a concentration of fumes such as a stairwell, covered breezeway, etc.

NOTICE:

Termination must exhaust above air inlet elevation.

- It is recommended that at least 60 inches (1.52m) of vertical pipe be installed when appliance is vented directly through a wall. This will create a natural draft, which will help prevent the possibility of smoke or odor venting into the home during a power outage.
- It will also keep exhaust from causing a nuisance or hazard by exposing people or shrubs to high temperatures.
- The safest and preferred venting method is to extend the vent vertically through the roof or above the roof.

B. Avoiding Smoke and Odors

Negative Pressure, Shut-Down and Electrical Power Failure

To reduce the probability of back-drafting or burn-back in the pellet appliance during power failure or shut down conditions, it must be able to draft naturally without exhaust blower operation.

Negative pressure in the house will resist this natural draft if not accounted for in the pellet appliance installation.

Heat rises in the house and leaks out at upper levels. This air must be replaced with cold air from outdoors which flows into lower levels of the house.

Vents and chimneys into basements and lower levels of the house can become the conduit for air supply and reverse under these conditions.

Outside Air

An outside air kit is recommended in all installations. The Outside Air Kit must be ordered separately.

Per national building codes, consideration must be given to combustion air supply to all combustion appliances. Failure to supply adequate combustion air for all appliance demands may lead to back-drafting of those and other appliances.

When the appliance is roof vented (strongly recommended):

The air intake is best located on the exterior wall oriented towards the prevailing wind direction during the heating season.

When the appliance is side-wall vented:

The air intake is best located on the same exterior wall as the exhaust vent outlet and located lower on the wall than the exhaust vent outlet.

The outside air supply kit can supply most of the demands of the pellet appliance, but consideration must be given to the total house demand.

House demand may consume the air needed for the appliance. It may be necessary to add additional ventilation to the space in which the pellet appliance is located.

Consult with your local HVAC professional to determine the ventilation demands for your house.

Vent Configurations

To reduce probability of reverse drafting during shut-down conditions Hearth & Home Technologies strongly recommends:

- Installing the pellet vent with a minimum vertical run of 5 feet (1.52m). Preferably terminating above the roof line.
- Installing the outside air kit at least 4 feet (1.22m) below the vent termination.

To prevent soot damage to exterior walls of the house and to prevent re-entry of soot or ash into the house:

- Maintain specified clearances to windows, doors and air inlets, including air conditioners.
- Vents should not be placed below ventilated soffits. Run the vent above the roof.
- Avoid venting into alcove locations.
- Vents should not terminate under overhangs, decks or onto covered porches.
- Maintain minimum clearance of 12 inches (305mm) from the vent termination to the exterior wall. If you see deposits developing on the wall, you may need to extend this distance to accommodate your installation conditions.

⚠ CAUTION

- DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVICING ANOTHER APPLIANCE.
- DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

C. Negative Pressure

Negative pressure results from the imbalance of air available for the appliance to operate properly. It can be strongest in lower levels of the house.

Causes include:

- Exhaust fans (kitchen, bath, etc.)
- Range hoods
- Combustion air requirements for furnaces, water heaters and other combustion appliances
- Clothes dryers
- Location of return-air vents to furnace or air conditioning
- Imbalances of the HVAC air handling system
- Upper level air leaks such as:
  - Recessed lighting
  - Attic hatch
  - Duct leaks

To minimize the effects of negative air pressure:

- Install the outside air kit with the intake facing prevailing winds during the heating season
- Ensure adequate outdoor air for all combustion appliances and exhaust equipment
- Ensure furnace and air conditioning return vents are not located in the immediate vicinity of the appliance
- Avoid installing the appliance near doors, walkways or small isolated spaces
- Recessed lighting should be a “sealed can” design
- Attic hatches weather stripped or sealed
- Attic mounted duct work and air handler joints and seams taped or sealed

⚠ WARNING

Risk of Asphyxiation!

Negative pressure can cause spillage of combustion fumes and soot.

D. Draft

Draft is the pressure difference needed to vent an appliance successfully. When an appliance is drafting successfully, all combustion byproducts are exiting the home through the chimney.

Install through the warm airspace enclosed by the building envelope. This helps to produce more draft, especially during lighting and die-down of the fire.

Considerations for successful draft include:

- Preventing negative pressure
- Location of appliance and chimney

NOTICE: *Hearth & Home Technologies assumes no responsibility for the improper performance of the chimney system caused by:*

- *Inadequate draft due to environmental conditions*
- *Downdrafts*
- *Tight sealing construction of the structure*
- *Mechanical exhausting devices*

E. Chimney and Exhaust Connection

1. **Chimney & Connector**: Use 3 or 4 inch (76-102mm) diameter type “L” or “PL” venting system. It can be vented vertically or horizontally.
2. **Mobile Home:** Approved for all Listed pellet vent. If using the 3 inch (76mm) vertical Top Vent Adapter Kit or the 3 to 6 inch (76-152mm) Top Vent Offset Adapter, use Listed double wall flue connector. A Quadra-Fire Outside Air Kit must be used with manufactured home installations.
3. **Residential:** The 3 inch (76mm) vertical Top Vent Adapter Kit and the 3 to 6 inch (76-152mm) Top Vent Offset Adapter are tested to use 24 gauge single wall flue connector or Listed double wall flue connector to Class A Listed metal chimneys, or masonry chimneys meeting International Residential Code standards for solid fuel appliances.
4. **INSTALL VENT AT CLEARANCES SPECIFIED BY THE VENT MANUFACTURER.**
5. Secure exhaust venting system to the appliance with at least 3 screws. Also secure all connector pipe joints with at least 3 screws through each joint.
6. DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS UNIT.
7. DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

NOTE: All pipe must be welded seam pipe whenever possible. Seal pipe joints with high temperature silicone (500°F [260°C] minimum rated only).

NOTE: If burning shelled field corn, you must use approved venting specifically designed for corn. Follow the instructions from the venting manufacturer.

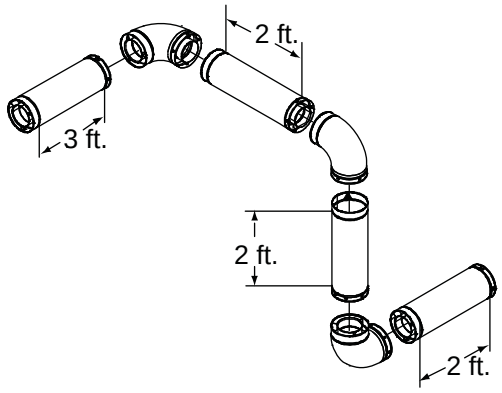
F. Equivalent Feet of Pipe

The table below can help you calculate the equivalent feet of pipe which is a method used to determine pellet vent size. **Figure 14.1.**

⚠ WARNING

Vent surfaces get HOT, can cause burns if touched. Non-combustible shielding or guards may be required.

Example of 3 Elbow-Rear Vent Termination Calculation



Pellet Venting Component	# of Elbows	Feet of Pipe	Multiplied By	Equivalent Feet	Components Equivalent Feet
90° Elbow or Tee	3		X	**5**	15
45° Elbow			X	**3**	
Horizontal Pipe		7	X	**1**	7
Vertical Pipe		2	X	**0.5**	1
			Total Equivalent Feet		**23**

Note: This is a generic example and is not intended to represent any specific fuel type.

Figure 14.1

G. Pipe Selection Chart

The chart will help you in determining proper venting size according to the equivalent feet of pipe calculated previously and the altitude above sea level of this installation.
Figure 14.2

a. Locate the calculated equivalent feet of pipe on the vertical left side of the chart.

b. Move to the right horizontally on the chart until you reach your altitude above sea level.

c. If you fall below the diagonal line, 3 or 4 inch (76 to 102mm) pipe may be used.

d. If it is anywhere above the diagonal line, a 4 inch (102mm) diameter pipe is required.

NOTICE:

- A 90° elbow is 5 times as restrictive to the flow of exhaust gases under positive pressure as 1 foot (305mm) of horizontal pipe.
- A foot of horizontal pipe is twice as restrictive as a foot of vertical pipe.

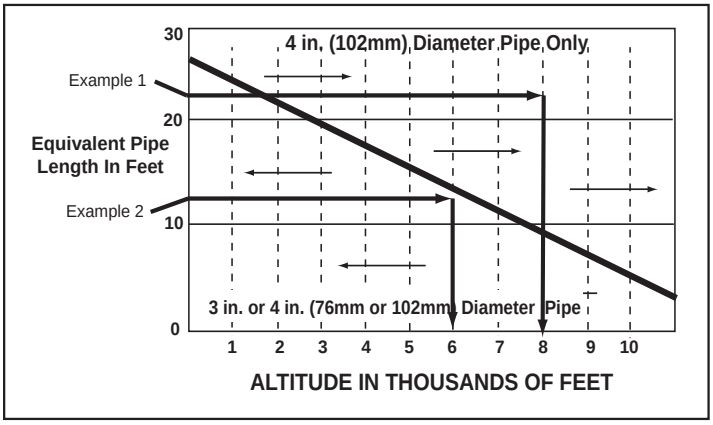

4 in. (102mm) Diameter Pipe Only
Example 1
Example 2
Equivalent Pipe Length In Feet
30
20
10
0
3 in. or 4 in. (76mm or 102mm) Diameter Pipe
1 2 3 4 5 6 7 8 9 10
ALTITUDE IN THOUSANDS OF FEET

Figure 14.2

Example 1: If the equivalent length of pipe is 23 feet (7m) with altitude of 8,000 feet (2438m) you must use 4 inch (102mm) diameter type “L” or “PL” vent.

Example 2: If the equivalent length of pipe is 12 feet (3.7m) with altitude of 6,000 feet (1829m) you may use 3 or 4 inch (76 to 102mm) diameter type “L” or “PL” vent.

⚠ WARNING

Fire Risk.

- Only LISTED venting components may be used.
- NO OTHER vent components may be used.
- Substitute or damaged vent components may impair safe operation.

⚠ WARNING

RISK OF INJURY OR PROPERTY DAMAGE!

- Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.
- Refer to the owner’s information manual provided with this appliance.
- For assistance or additional information consult a qualified installer, service agency or your dealer.

5 Venting Systems

A. Full Reline With Outside Air - Horizontal

CAUTION

Never draw outside combustion air from:
- Wall, floor or ceiling cavity
- Enclosed space such as an attic or garage

⚠WARNING

Fire Risk.

Inspection of Chimney:
- Masonry chimney must be in good condition.
- Meets minimum standard of NFPA 211
- Factory-built chimney must be a minimum 6 inch (152mm) UL103 HT.

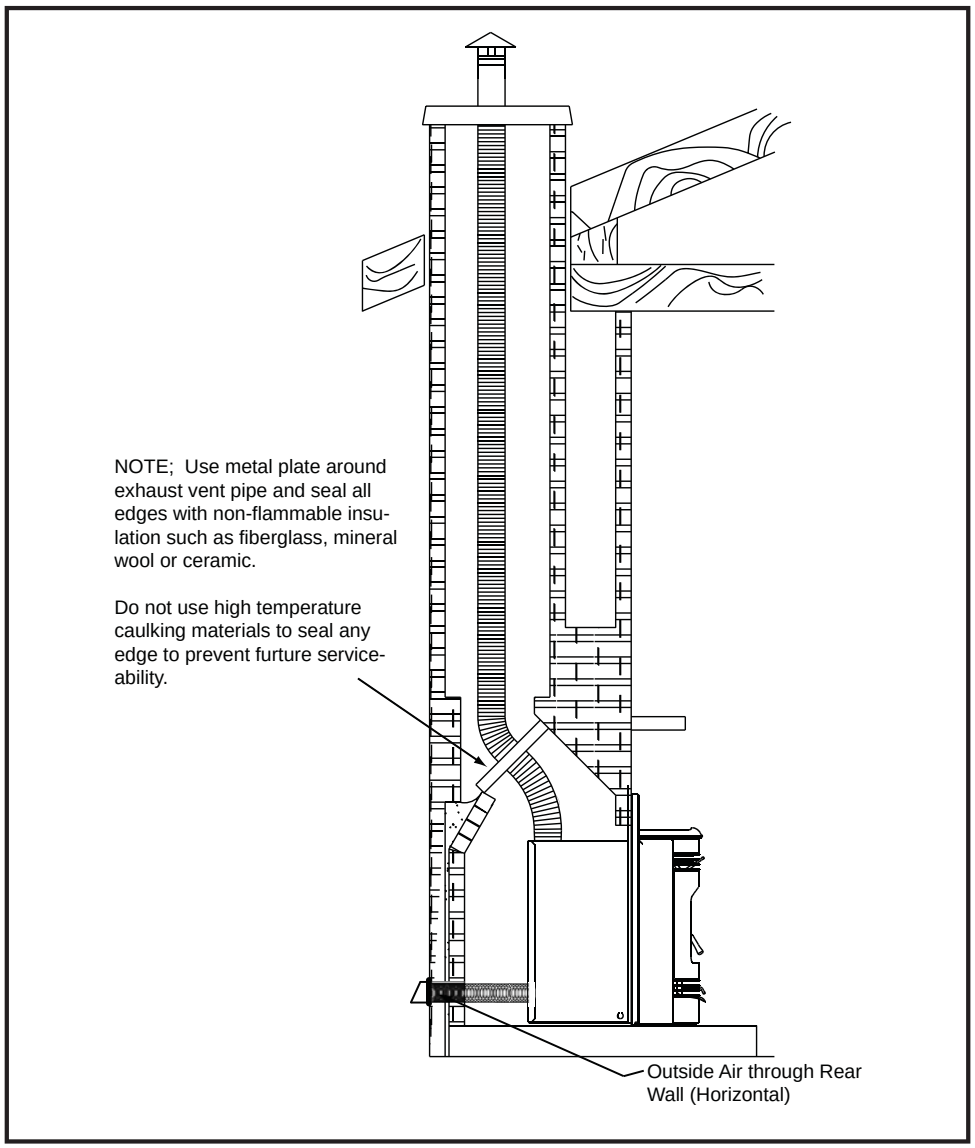

NOTE; Use metal plate around exhaust vent pipe and seal all edges with non-flammable insulation such as fiberglass, mineral wool or ceramic.
Do not use high temperature caulking materials to seal any edge to prevent furture serviceability.
Outside Air through Rear Wall (Horizontal)

Figure 15.1

NOTE: In Canada, where passage through a wall or partition of combustible construction is desired, the installation shall conform to CAN/CSA-B365.

NOTE:
- Illustrations reflect typical installations and are FOR DESIGN PURPOSES ONLY.
- Illustrations/diagrams are not drawn to scale.
- Actual installation may vary due to individual design preference.

B. Full Reline With Outside Air - Vertical

NOTE: Check clearances carefully for this type of installation to ensure adequate room for outside air venting.

CAUTION

Check building codes prior to installation.

- Installation MUST comply with local, regional, state and national codes and regulations.
- Consult local building, fire officials or authorities having jurisdiction about restrictions, installation inspection, and permits.

Side view of Santa Fe Insert with side panel removed.

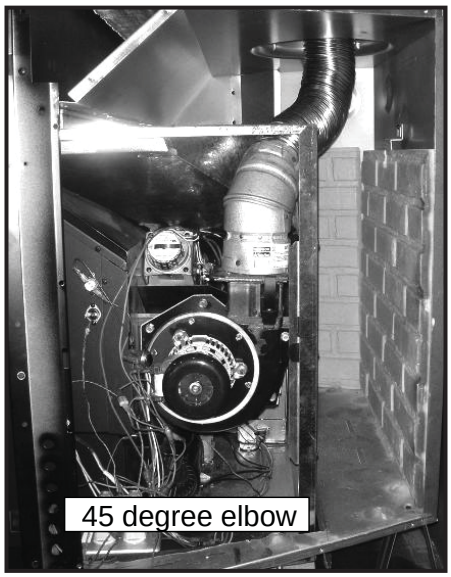


Figure 16.1

Figure 16.2

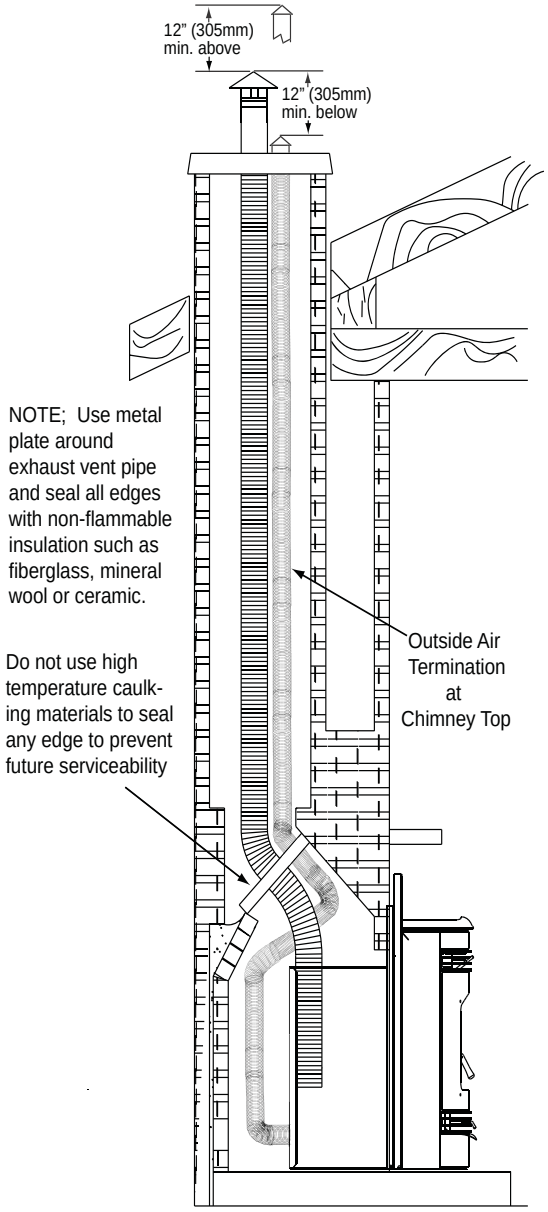

12" (305mm) min. above
12" (305mm) min. below
NOTE; Use metal plate around exhaust vent pipe and seal all edges with non-flammable insulation such as fiberglass, mineral wool or ceramic.
Do not use high temperature caulking materials to seal any edge to prevent future serviceability
Outside Air Termination at Chimney Top

Figure 16.3

NOTE: In Canada, only a full reline is allowed per ULC S628-93, ORD ULC C1482-M1990.

NOTE: In Canada this fireplace insert must be installed with a continuous chimney liner a 6 inch (152mm) in diameter extending from the fireplace insert to the top of the chimney. The chimney liner must conform to the Class 3 requirements of CAN/ULC-S635, Standard for Lining Systems for Existing Masonry or Factory-Built Chimneys and Vents, or CAN/ULC-S640, Standard for Lining Systems for New Masonry Chimneys.

6 Appliance Set-Up

A. Leveling System

The leveling bolts are located at the rear of the appliance. To access the bolts, remove the front access panels. Reach in and turn the bolt to the desired height to level the appliance.

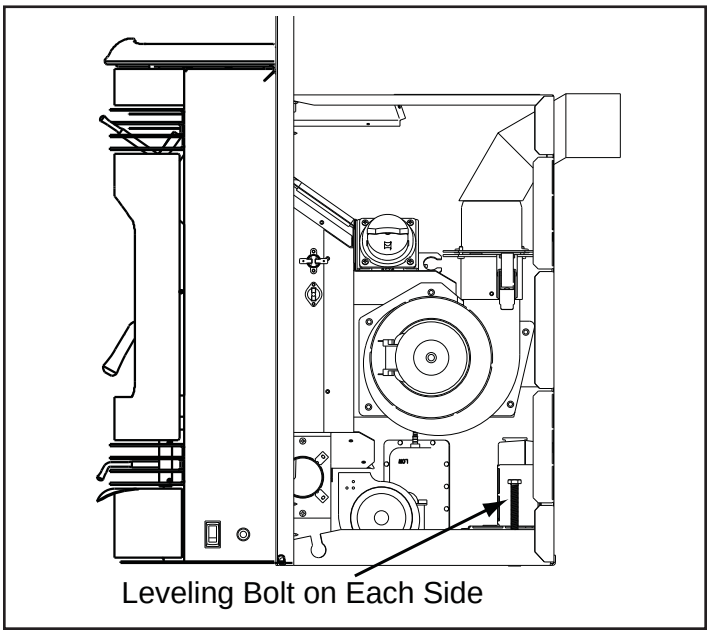


Figure 17.1

B. Outside Air Kit Instructions

Parts Included in Kit: 1 piece of 2 inch x 3 ft. flex hose, 2 hose clamps, 1 collar assembly, 1 termination cap assembly, 1 trim ring, fasteners.

Tools Needed: Phillips head screwdriver; wire cutters; hole saw or jig saw.

1. Measure distance from floor to air vent opening in appliance and mark location on wall.
2. Use saw to cut opening in wall. Cut a 2-1/2 to 3 inch (64-76mm) opening on inside wall and a 3 to 3-1/2 inch (76-89mm) opening on outside of house.
3. Use hose clamp to secure flex pipe to collar assembly.
4. Slide trim ring over flex pipe and run pipe through wall.
5. Attach hose to outside termination cap with second hose clamp.
6. Secure termination cap to outside surface.
7. Secure trim ring to interior wall.

CAUTION

Never draw outside combustion air from:
- Wall, floor or ceiling cavity
- Enclosed space such as an attic or garage

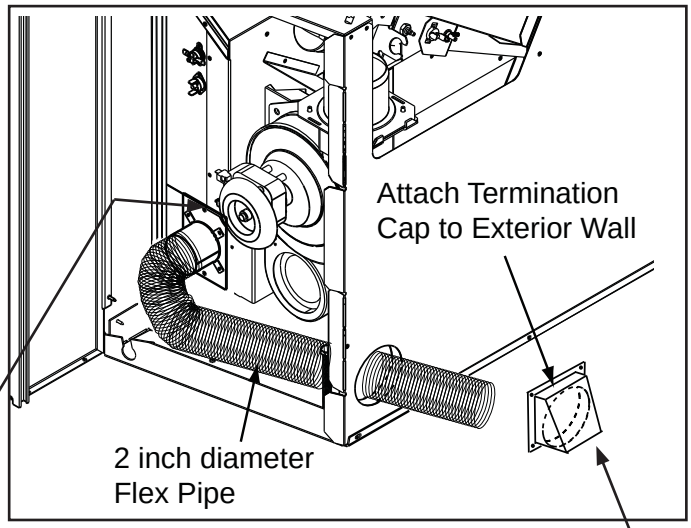
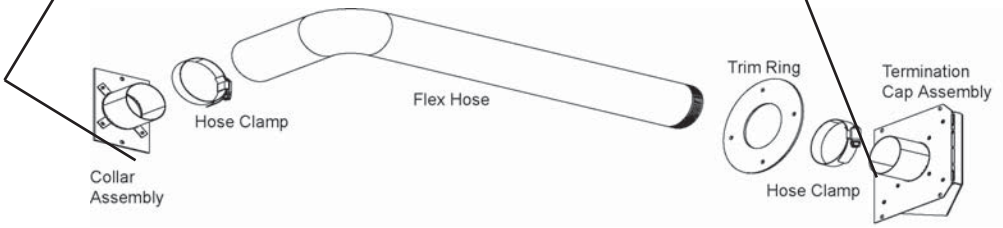


Figure 17.2



C. Optional Grille Removal and Installation

Included in Kit: (4) lower grilles; (3) upper grilles, (1) upper grille; (4) grille bracket covers; fasteners

Tools Required: #2 Phillips head screwdriver

1. Open the door. Remove the top 2 screws on each side of upper grille and remove the single grille. Remove the bottom 2 screws on each side and remove the 3 grilles attached together.
2. Removing the ash drawer before taking off the lower grille will make the lower grille easier to remove. Using a Phillips head screwdriver, remove the 2 screws on each side and pull forward with a downward motion to avoid catching the grille on the firepot pull rod.

   NOTE: The plated grilles, Nickel, Black Nickel and Gold, have 4 black grille bracket covers to eliminate the brightness of the bracket plating. The bracket covers are shipped flat, installed on the grilles, and after the grilles are installed on the appliance they are then finger-bent into position.
4. Attach the 4 grille bracket covers to the lower 4 grilles and the top 3 grilles. Slip the metal strips through the grille openings and secure to grille with screws provided. Do not finger bend the cover brackets at this time.
5. Secure the lower grille to the appliance with 2 screws on each side. Finger bend the bracket covers around the plated brackets.
6. The upper grille has 2 separate parts. Install the 3 grilles attached together first. Angle the grilles downward and insert the heat exchanger cleaning rods through the holes in the second grille and then twist forward until horizontally level. Attach the grille with only the bottom 2 screws on each side of grille. Do not finger bend the cover brackets at this time.
7. Position the single top grille over the 3 already in place. Attach with one screw on each side through the top grille and the other 3 grilles to secure to appliance.
8. Finger bend the bracket covers on the upper grille into place.
9. Re-install the ash drawer.

D. Door Handle Removal

Tools Required: 5/32 Allen wrench

1. Open the door. Using a 5/32 Allen wrench, loosen set screw by a couple of turns, but do not remove.
2. Push the pin completely out and remove the handle.
3. Re-install in reverse order.

E. Door Removal

1. Remove the door handle and face. Follow instructions from D above.
2. The door can now be lifted off the hinges.
3. Re-install in reverse order.

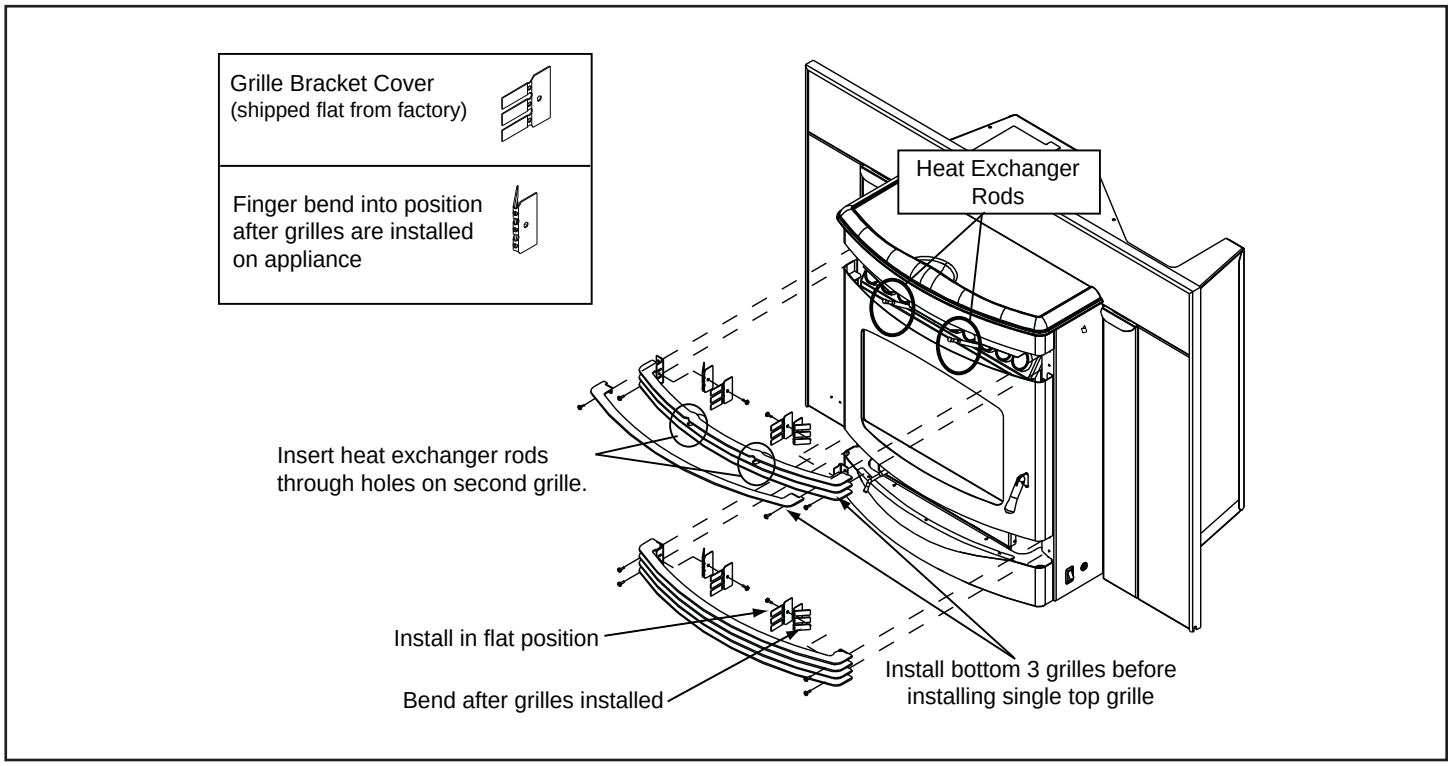


Figure 18.1

F. Adjustable Hearth Support

Size: 9”d x 45”w, 2” to 10” Height Adjustment

Included in Kit: (1) trim top, (1) trim front, (2) trim sides, double-sided tape (already installed)

Tools Needed: Phillips head screwdriver, sheet metal shears, measuring tape, gloves

1. The 10 screws on each set of scissors will already be loose when shipped. **Figure 19.1.**
2. Expand scissors to desired height. Tighten screws to hold in place using Phillips head screwdriver. **Figure 19.2.**
3. Measure front and side trims to required height to cover scissors and mark pieces for cutting. Cut excess material from **top** of trims edge, not bottom. This edge will be sharp; wear gloves to prevent injury to your hands. **Figure 19.3.**
4. Using sheet metal shears, cut trim along the marked edge. The cut edge fits under lip of top trim, so it allows for some variance in your straight edge.
5. The double-sided tape that holds front and side trims to scissors has a powerful bonding adhesive. Adjustments are extremely difficult once trim has adhered to tape. Do a dry run first without removing paper from tape.
6. Place cut edge of trim under top lip and into position on scissors. Place side pieces on first and then front piece. The front piece overlaps side pieces.
7. Once you are satisfied with the positioning, remove trim and set aside.
8. Remove the paper from double-sided tape that is to accept trim side. Align side and then press hard against tape to secure side piece. Repeat for other side. Install front trim piece last.
9. There are 3 holes in the back flange of the top to secure it to the wall if necessary. Use the appropriate fastener for the type of wall material, i.e., brick, sheetrock, etc.

   NOTE: 3/8 inch (9.5mm) thick tile or like material can be cut to size and fit under lip of top trim edge for a decorative touch. **Figure 19.3.**

WARNING

Sheet metal trim edges will be sharp. For safety purposes wear gloves.
Injury can occur.

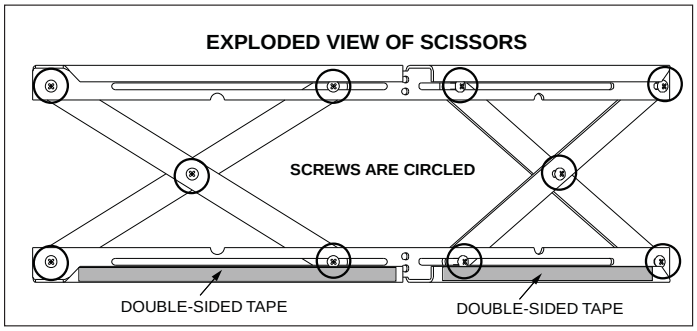


Figure 19.1

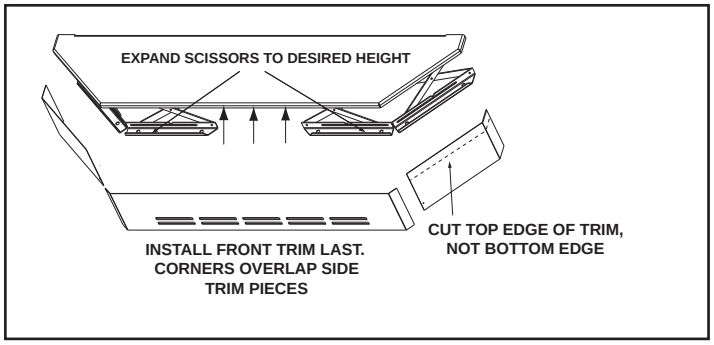

EXPAND SCISSORS TO DESIRED HEIGHT
CUT TOP EDGE OF TRIM, NOT BOTTOM EDGE
INSTALL FRONT TRIM LAST. CORNERS OVERLAP SIDE TRIM PIECES

Figure 19.2

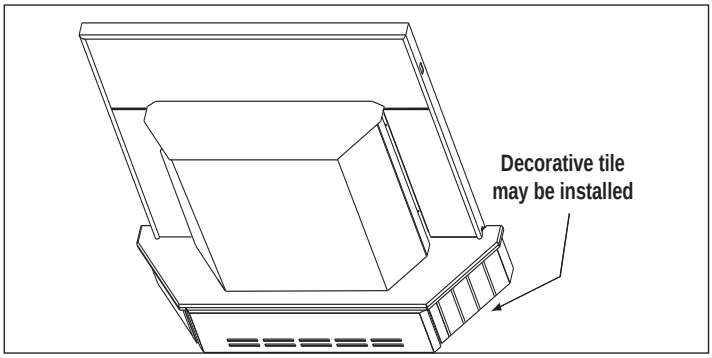


Figure 19.3

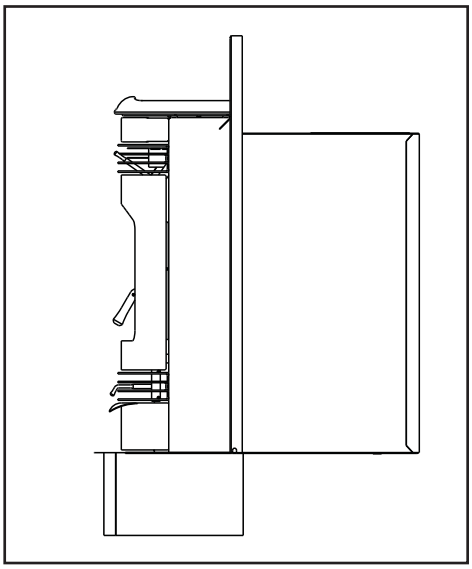


Figure 19.4

G. Panel and Trim Set

1. Lay panel top and legs face down on protective covering to prevent scratching.

1. Attach the panel legs to the top panel using a Phillips head screwdriver. There are 2 screws for each leg. **Figure 20.2.**
2. Open the hopper lid by pulling toward you. This will make it easier to set the panels in place. Secure the panels to the insert, 2 screws per leg, as shown in **Figure 20.3.**
3. Connect the trim pieces together using the "L" Brackets supplied. **Figure 20.4.**
4. Slide the trim over the top of the panels.
5. Install the access panels. At the bottom of the access panel there are 2 hooks that slip into a slot at the bottom of the side panel and a magnet at the top that holds the access panel in place. **Figure 20.3.**

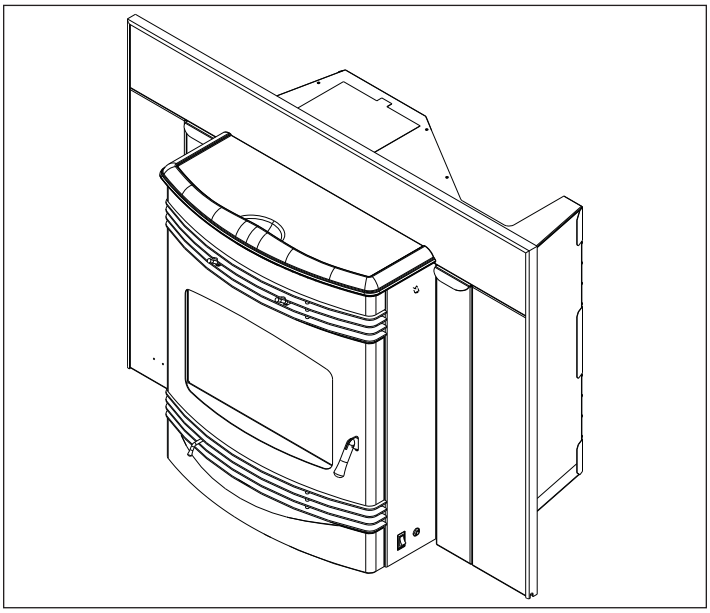


Figure 20.1- Completed View

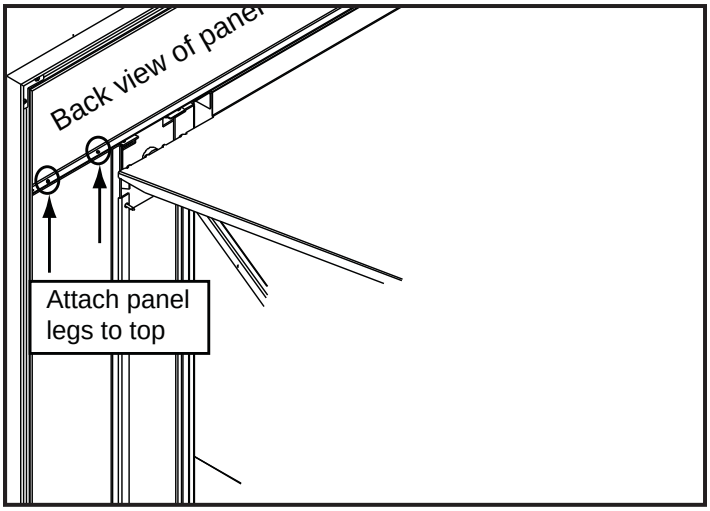


Figure 20.2

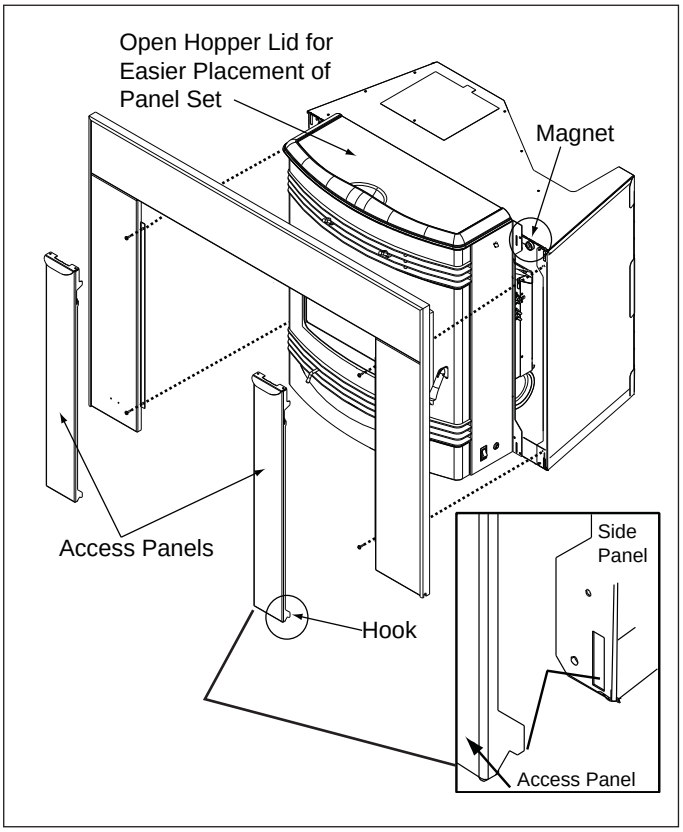


Figure 20.3

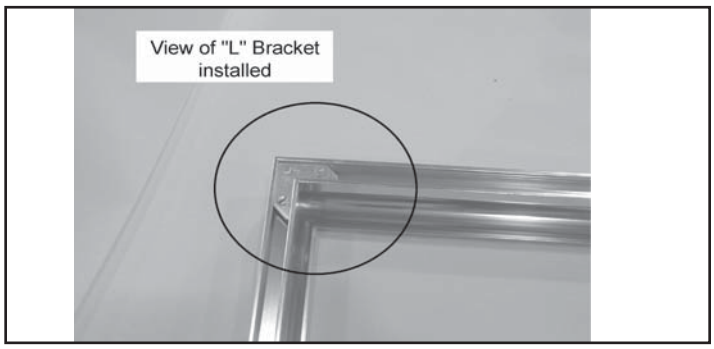


Figure 20.4

H. Thermostat Installation

1. A 12 volt AC thermostat is required to operate this pellet appliance. You may use the included wall mount thermostat or purchase an optional programmable thermostat or remote control.

   The included thermostat is equipped with an adjustable heat anticipator. The current rating is .05 amps. The anticipator needs to be adjusted to the lowest setting available.

2. When mounting a thermostat on a wall, be sure to follow your thermostat installation instructions carefully.

   NOTE: Thermostat must be mounted level for accurate readings. The thermostat should be mounted on an inside wall and not in direct line with the appliance convection air. Remove any packaging from inside the thermostat before using.

Thermostat Installation (continued)

NOTE: If the thermostat is located too close to the appliance, you may need to set the temperature setting slightly higher to maintain the desired temperature in your home.

3. There is a 4 screw terminal block located on the junction box to the right of the power cord inlet. The center 2 screws are for the thermostat wires. The outer 2 are the mounting screws for the terminal block. **Figure 21.1.**

CAUTION

Shock hazard.
- Do NOT remove grounding prong from plug.
- Plug directly into properly grounded 3 prong receptacle.
- Route cord away from appliance.
- Do NOT route cord under or in front of appliance.

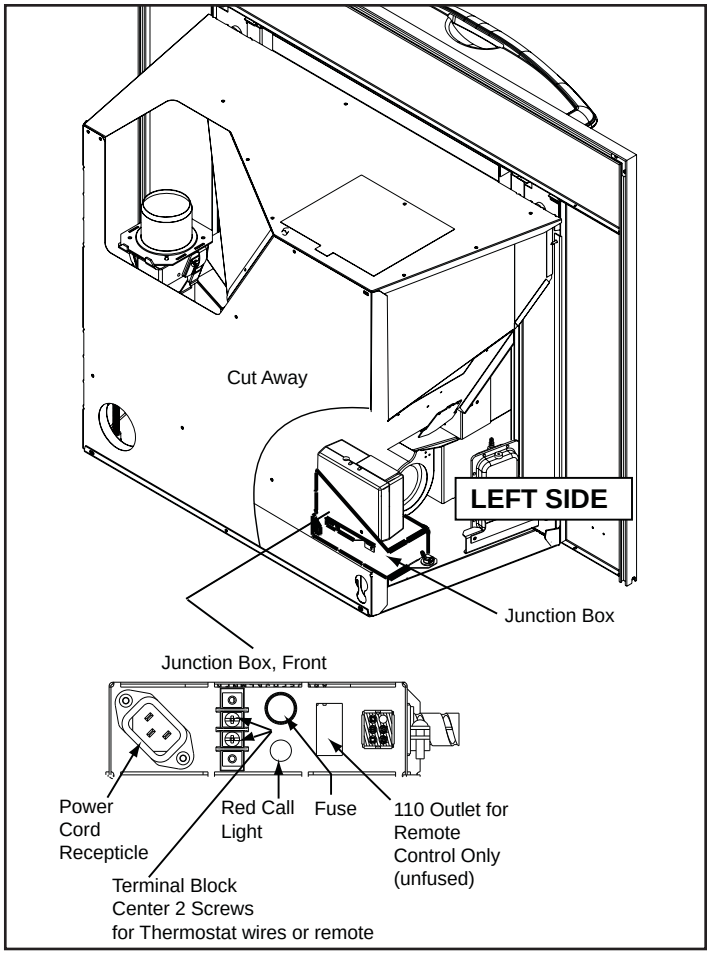


Figure 21.1

CAUTION

The 110 outlet on the junction box is for a remote control ONLY. Do not use outlet for any other purpose. It can damage the appliance and it will void your warranty.

I. Optional Log Set Placement

Two Piece Log Set Installation

1. Open door to expose the firebox.
2. Install the left log first and then the right log. **Figure 21.1**
3. Lean the logs against the cast iron brick in the back of the firebox.
4. Push the logs to the far left and far right against the sides of the firebox. **Figure 21.2.**
5. To clean the logs, use a vacuum cleaner and a soft brush attachment or a paint brush.

CAUTION

Logs are FRAGILE. Use extreme care when handling or cleaning logs.

Figure 21.1

Figure 21.2

NOTE:
Due to the abrasive nature of a pellet appliance fire, the logs are not covered under warranty. Any placement variation other than shown here can cause excessive heat and shall void the appliance warranty.

7 Mobile Home Installation

You must use a Quadra-Fire Outside Air Kit for installation in a mobile home.

1. An outside air inlet must be provided for the combustion air and must remain clear of leaves, debris, ice and/or snow. It must be unrestricted while the appliance is in use to prevent room air starvation which causes smoke spillage. Smoke spillage can also set off smoke alarms.
2. The combustion air duct system must be made of metal. It must permit zero clearance to combustible construction and prevent material from dropping into the inlet or into the area beneath the dwelling and contain a rodent screen.
3. The appliance must be secured to the mobile home structure by bolting it to the floor (using lag bolts). Use the same holes that secured the appliance to the shipping pallet.
4. The appliance must be grounded with #8 solid copper grounding wire or equivalent, terminated at each end with an NEC approved grounding device.
5. Refer to Clearances to Combustibles and floor protection requirements on **page 8** for listings to combustibles and appropriate chimney systems.
6. Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
7. Follow the chimney manufacturer's instructions when installing the vent system for use in a mobile home.
8. Installation shall be in accordance with the Manufacturers Home & Safety Standard (HUD) CFR 3280, Part 24.

CAUTION

THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL AND CEILING/ROOF MUST BE MAINTAINED

Do NOT cut through:

- Floor joist, wall, studs or ceiling trusses.
- Any supporting material that would affect the structural integrity.

This unit is to be connected to a factory-built chimney conforming to CAN/ULC-S629, Standard for 650°C Factory-Built Chimneys.

For removal of the chimney for mobile home transportation, contact the proper transportation officials.

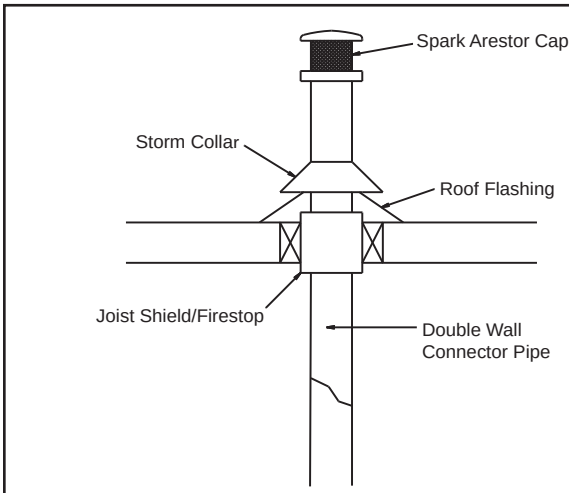


Figure 22.1

CAUTION

Never draw outside combustion air from:

- Wall, floor or ceiling cavity
- Enclosed space such as an attic or garage

WARNING

It is critical to have a working smoke detector installed in the home of unit operation.

- Smoke alarms that are properly installed and maintained play a vital role in reducing fire deaths and injuries. Having a working smoke alarm reduces the chance of fire related injuries..

WARNING

Products of combustion generate carbon monoxide and different fuels generate different levels. Carbon monoxide

- Only use approved fuels in this appliance.
- Always keep door shut during operation. Operating this unit with doors open can allow CO to leak into the home.

CO can kill you before you are aware it is in your home. At lower levels of exposure, CO causes mild effects that are often mistaken for the flu. These symptoms include headaches, dizziness, disorientation, nausea and fatigue. The effects of CO exposure can vary greatly from person to person depending on age, overall health and the concentration and length of exposure.

⚠ WARNING

NEVER INSTALL IN A SLEEPING ROOM.

8 Accessory List

ACCESSORIES			
	Adjustable Hearth Support	12” x 50”, 2-10” H	ADJSPT-12
		9” x 45”, 2-10” H	841-0990
	Log Set		LOGS-30-OE
	Log, Rear Left		7050-144
	Log , Rear Right		7050-143
	Outside Air Kit, Rear		811-0872
	Channel, Air Intake		413-7040
	Cover, Outside Air Kit, Floor		411-1071
	Hose, Alum Flex, 2 Inch X 3 Ft		200-0860
	Outside Air Cap Assembly		7001-044
	Outside Air Collar Assembly		7001-045
	Trim Plate, Outside Air Kit		412-7100
	Panel Set, Large	Black Nickel	SP-SFI3350-NB
		No longer available	SP-SFI3350-GD
		Nickel	SP-SFI3350-NL
	Bracket, -L-, Trim		832-0840
	Logo, Quadra-Fire	Pkg of 10	7000-649/10
	Trim, Panel Set	Black Nickel	7019-027
		Gold	250-4660
	Panel Set, Small	Black Nickel	SP-SFI3040-NB
		No longer available	SP-SFI3040-GD
		Nickel	SP-SFI3040-NL
	Bracket, -L-, Trim		832-0840
	Logo, Quadra-Fire	Nickel	7000-649/10
	Trim, Panel Set, Std	Black Nickel	7019-026
		Gold	811-0710
	Reset Button Assembly		SRV7000-040
	Smart-Batt II		841-0970
	Smart-Stat II		841-0960
	Thermostat, Mechanical		812-3760
	Thermostat, Programmable		811-0520
	Vent Adapter, 3-4”		811-0720

QUADRA-FIRE
NOTHING BURNS LIKE A QUAD

CONTACT INFORMATION

Hearth & Home Technologies
1445 North Highway
Colville, WA 99114
Division of HNI INDUSTRIES

Please contact your Quadra-Fire dealer with any questions or concerns.
For the number of your nearest Quadra-Fire dealer
log onto www.quadrafire.com

CAUTION

DO NOT DISCARD THIS MANUAL

- Important operating and maintenance instructions included.
- Read, understand and follow these instructions for safe installation and operation.
- Leave this manual with party responsible for use and operation.

We recommend that you record the following pertinent information for your heating appliance.

Date purchased/installed: _____

Serial Number: _____ Location on appliance: _____

Dealership purchased from: _____ Dealer phone: _____

Notes: _____

This product may be covered by one or more of the following patents: (United States) 5341794, 5263471, 6688302, 7216645, 7047962 or other U.S. and foreign patents pending.

HEARTH & HOME technologies